

In the Claims

Please amend the claims as follows. A complete set of claims is presented below, with additions indicated by underlining and deletions indicated by strikethrough.

1. (Currently amended) An isolated polypeptide comprising an EphA3 HLA class II-binding peptide ~~comprising~~ that consists of a fragment of an amino acid sequence selected from the group consisting of SEQ ID NO:3, SEQ ID NO:5 and SEQ ID NO:7 which binds an HLA class II molecule, wherein the fragment comprises the amino acid sequence of SEQ ID NO:53, or a functional variant thereof comprising 2 or fewer amino acid substitutions ~~one or more amino acid additions, substitutions or deletions.~~
2. (Currently amended) The isolated polypeptide ~~HLA class II binding peptide~~ of claim 1, wherein the isolated polypeptide ~~peptide~~ consists of a fragment of an amino acid sequence selected from the group consisting of SEQ ID NO:3, SEQ ID NO:5 and SEQ ID NO:7, ~~or a functional variant thereof.~~
3. (Canceled)
4. (Currently amended) The isolated polypeptide ~~HLA class II binding peptide~~ of claim ~~[[3]]~~ 1 wherein the isolated ~~peptide~~ fragment comprises an amino acid sequence selected from the group consisting of SEQ ID NO:51, SEQ ID NO:54, SEQ ID NO:62, ~~fragments thereof, and functional variants thereof.~~
5. (Currently amended) The isolated polypeptide ~~HLA class II binding peptide~~ of claim ~~[[3]]~~ 1, wherein the isolated polypeptide ~~peptide~~ comprises an endosomal targeting signal.
6. (Canceled)
7. (Currently amended) The isolated polypeptide ~~HLA class II binding peptide~~ of claim ~~[[3]]~~ 1 wherein the isolated polypeptide ~~peptide~~ ~~is non-hydrolyzable.~~

8. (Canceled)

9. (Currently amended) An isolated EphA3 HLA class I-binding peptide comprising a fragment of an amino acid sequence selected from the group consisting of SEQ ID NO:3, SEQ ID NO:5 and SEQ ID NO:7 which binds an HLA class I molecule, ~~or a functional variant thereof comprising one or more amino acid additions, substitutions or deletions.~~

10. (Currently amended) A composition comprising an isolated EphA3 HLA class I-binding peptide and the isolated polypeptide ~~EphA3 HLA class II-binding peptide~~ of claim 1.

11.-14. (Canceled)

15. (Currently amended) An isolated nucleic acid encoding the polypeptide ~~peptide~~ of claim [[3]] 1, wherein the nucleic acid does not encode full length EphA3.

16.-20. (Canceled)

21. (Currently amended) A method for enriching selectively a population of T lymphocytes with T lymphocytes specific for an EphA3 HLA binding peptide comprising:

contacting a source of T lymphocytes which contains a population of T lymphocytes with an agent presenting a complex of the EphA3 HLA binding peptide contained in the isolated polypeptide of claim 1 and an HLA molecule in an amount sufficient to selectively enrich the population of T lymphocytes with the T lymphocytes specific for an EphA3 HLA binding peptide.

22.-51. (Canceled)

52. (Currently amended) An isolated antigen presenting cell which comprises a complex of an HLA molecule and the EphA3 HLA binding peptide contained in the isolated polypeptide of claim 1.

53. (Canceled)

54. (Currently amended) A vaccine comprising the isolated polypeptide of claim 1 and a pharmaceutically acceptable carrier.

55.-64. (Canceled)

65. (New) The isolated polypeptide of claim 5, wherein the endosomal targeting signal comprises an endosomal targeting portion of a polypeptide selected from the group consisting of human invariant chain Ii and LAMP-1.

66. (New) The isolated polypeptide of claim 7 wherein the isolated polypeptide is selected from the group consisting of polypeptide comprising D-amino acids, peptides comprising a -psi[CH₂NH]-reduced amide peptide bond, peptides comprising a -psi[COCH₂]-ketomethylene peptide bond, peptides comprising a -psi[CH(CN)NH]-(cyanomethylene)amino peptide bond, peptides comprising a -psi[CH₂CH(OH)]-hydroxyethylene peptide bond, peptides comprising a -psi[CH₂O]-peptide bond, and peptides comprising a -psi[CH₂S]-thiomethylene peptide bond.

67. (New) The composition of claim 10, wherein the EphA3 HLA class I-binding peptide and the polypeptide are combined as a polytope polypeptide.

68. (New) The composition of claim 10, wherein the isolated polypeptide comprises an amino acid sequence selected from the group consisting of SEQ ID NO:51, SEQ ID NO:53, SEQ ID NO:54, SEQ ID NO:62.

69. (New) The composition of claim 10, wherein the isolated polypeptide comprises an endosomal targeting signal.

70. (New) The composition of claim 69, wherein the endosomal targeting signal comprises an endosomal targeting portion of a polypeptide selected from the group consisting of human invariant chain Ii and LAMP-1.
71. (New) The isolated nucleic acid of claim 15, wherein the nucleic acid comprises a fragment of a nucleotide sequence selected from the group consisting of SEQ ID NO:2, SEQ ID NO:4, SEQ ID NO:6, SEQ ID NO:52, and fragments of SEQ ID NO:52.
72. (New) The method of claim 21, wherein the agent is an antigen presenting cell contacted with an EphA3 protein or an HLA class II binding fragment thereof.
73. (New) The method of claim 21 wherein the HLA molecule is an HLA-DR11 molecule.
74. (New) The method of claim 21, wherein the isolated polypeptide comprises an endosomal targeting portion of a polypeptide selected from the group consisting of human invariant chain Ii and LAMP-1.
75. (New) The isolated antigen presenting cell of claim 52 wherein the HLA molecule is an HLA-DR11 molecule.
76. (New) The vaccine of claim 54, further comprising an adjuvant.